the IG and CG groups were 9.32 (3.25) and 15.79 (4.82), respectively in month 27).

CONCLUSIONS: In summary, our findings indicate that our intervention reduces the number of consultations, which is a direct measure of health economic costs.

F-30 Free Communication/Poster - Medical Issues

JUNE 1, 2012 1:00 PM - 6:00 PM
ROOM: Exhibit Hall

3215 *Board #180* June 1 3:30 PM - 5:00 PM

Intensive Lifestyle Modifications Reduce Lp-PLA2 Mass In Patients With HIV Lipodystrophy

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(No relationships reported)

Patients with HIV-associated dyslipidemia have exhibited Lp-PLA_2 levels above what is observed in patients with coronary heart disease (CHD), which may indicate accelerated development of CHD.

PURPOSE: To assess if an intensive diet and exercise (D/E) program independently and combined with fenofibrate and niacin provided added benefits to usual medical care at reducing circulating Lp-PLA_2 mass and CCL5/RANTES in patients with HIV dyslipidemia.

METHODS: Participants (n=107) were randomized to five study groups: 1) Usual care; 2) D/E; 3) D/E with fenofibrate (160 mg/d); 4) D/E with niacin (2 g/d); and 5) D/E with fenofibrate and niacin for 24 weeks. General linear models (SPSS 18.0) was used to compare the five randomized groups with respect to Lp-PLA_2 mass and CCL5/RANTES while controlling for age, baseline BMI, baseline $CD4^+$ T-cell count, baseline viral load, duration of HIV, and duration of antiretroviral drug therapy, as well as the baseline outcome value. Statistical significance was set at $P<0.05$.

RESULTS: Following the 24-week intervention, Lp-PLA_2 concentration (Table 1) was significantly lower in patients who participated in D/E only, D/E plus fenofibrate, and D/E plus niacin than patients receiving usual medical care. Interestingly, there was no significant difference in Lp-PLA_2 mass between patients who received D/E only, D/E plus fenofibrate and D/E plus niacin. No significant differences were observed between groups for CCL5/RANTES concentrations following the 24-week intervention.

CONCLUSIONS: This study is first to demonstrate that when compared to standard medical care, plasma Lp-PLA_2 mass can be reduced by an intensive D/E program in patients with HIV dyslipidemia.

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Table 1. Lp-PLA2 and RANTES levels following the 24-week intervention.

Group	Lp-PLA2 (ng/mL) Baseline	Lp-PLA2 (ng/mL) Post-treatment	RANTES (pg/mL) Baseline	RANTES (pg/mL) Post-treatment
1	415.1 ± 138.2	436.0 ± 88.8	42.4 ± 25.8	47.4 ± 30.5
2	387.2 ± 83.8	370.2 ± 102.6*	40.0 ± 14.9	52.4 ± 28.8
3	403.3 ± 158.6	368.8 ± 70.0*	44.3 ± 23.7	58.5 ± 36.8
4	373.0 ± 97.1	352.0 ± 84.1†	52.6 ± 39.1	49.2 ± 37.9
5	363.7 ± 139.8	380.2 ± 100.3	41.3 ± 22.2	41.4 ± 23.0

Data are presented as Mean ± SD. Group 1 is usual care + 2 placebos; Group 2 is intensive diet/exercise program + 2 placebos; Group 3 is intensive diet/exercise program + fenofibrate; Group 4 is intensive diet/exercise program + niacin; Group 5 is intensive diet/exercise program + fenofibrate + niacin. *P<0.05, †P<0.01, significantly different than Group 1 Post-treatment.

3216 *Board #181* June 1 3:30 PM - 5:00 PM

Intense Training Improves Prognosis On An Ex-elite Athlete With Smoldering Multiple Myeloma

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PURPOSE: To evaluate the influence of a supervised training program on: changes in serum monoclonal protein level (i.e. IgG), percentage of bone marrow plasma cells (BMPCs), performance, and cardiac autonomic control (i.e. heart rate [HR] variability [HRV]) on a female diagnosed with smoldering multiple myeloma.

METHODS: A 38-year-old female patient with smoldering multiple myeloma and former elite youth athlete, was followed for four years while participating in a high intensity training regime designed for the development of various physical capacities. HRV was evaluated via time (root mean square of successive differences [RMSSD]) and frequency (low [LF] and high [HF]) domain parameters with analysis of two 24 hrs R-R recordings per week during a six week period at the middle and the end of the follow-up. Changes in muscular strength, muscular endurance, and aerobic capacity; **RESULTS:** HRV parameters exhibited significant ($p<0.01$) increments (18-29%) in RMSSD, LF, HF with the LF/HF ratio being (2.28 ± 0.41 vs. 2.22 ± 0.43, p=0.595) unchanged. Exercise performance was significantly improved (e.g. 233 % increase in maximum number of pull-ups, and 22% increase in 1 repetition maximum bench press). Similarly, IgG levels exhibited a significant ($p<0.001$) reduction (44%, from 3,290 mg·dL-1 vs. 1,840 mg·dL-1) while BMPCs also decreased from 20% to 10%.

CONCLUSIONS: The current case report results indicated that an intense training program designed for the development of various physical capacities, and adapted to the patient's former elite training background, significantly improved exercise performance, cardiac autonomic control, and hematologic function that may improve long-term prognosis for smoldering multiple myeloma. Examination of similar exercise training for other cancer populations may assist in the development of treatment regimes for improved prognosis.

3217 *Board #182* June 1 3:30 PM - 5:00 PM

Three-Dimensional Global Area Tracking is a Valuable Quantitative Parameter for Left Ventricular Function in Athletes

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The one- and two- dimensional echocardiography offers established methods for quantitative evaluation of left ventricle systolic function such as the measurements of the ejection fraction by Teichholz or Simpson. In recently developed three-dimensional (3D) speckle tracking, the result of area tracking is used as a new method with global strain measurement to quantify global and regional left ventricular function. Global area tracking can be calculated by the time-to-peak area tracking related to the heart cycle and may offer an alternative to current echocardiographic standards for quantitative assessment of global left ventricular function in athletes.

PURPOSE: The aim of this study is to determine the correlation between ejection fraction and global area tracking in cardiovascular patients and athletes.

METHODS: Standard 3D speckle tracking echocardiography was performed in 21 healthy athletes (age 23 ± 4.8 yr, height 186 ± 9.4 cm, weight 84 ± 10.2 kg) and 9 cardiovascular patients. Ejection fraction and area tracking values were calculated by 3D wall motion tracking software. Echocardiography measurements of 3 consecutive beats were taken from each subject during the tests. Mean values of 3 measurements from both ejection fraction and area tracking were calculated for Spearman's rho correlation tests for nonparametric statistical comparisons.

RESULTS: Mean values for ejection fraction were 55 ± 5% in athletes and 55 ± 8% in patients. Mean values for global area tracking were -39 ±4% in athletes and -38 ± 6% in patients. All three groups of the subjects (21 athletes, 9 patients and combined group of 30 subjects) showed significant negative correlation between ejection fraction and area tracking. Correlations were found for athletes rho=-.776, for cardiovascular patients rho=-.929 and for combined group rho=-.855. All correlations were significant ($p < 0.01$) (2-tailed).

CONCLUSION: Significant negative correlations between ejection fraction and area tracking were found regardless of different physical fitness and cardiovascular conditions in athletes and cardiovascular patients.

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Regular Exercise As A Protective Factor Against Obesity Risk Among Extreme Sleep Phenotypes In Athletes

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(No relationships reported)

Recent studies suggest a strong relationship between extreme sleep phenotypes (e.g. short and long sleepers) and higher obesity rates in the general population. Increased adiposity and a lack of physical activity are reported to mediate this relationship. Notably, sleep phenotype has not been explored in an athlete population but is of interest given the apparent differences in lifestyle patterns of physical activity compared to the general population which may attenuate the risk of obesity.

PURPOSE: To determine the influence of regular physical activity in athletes on factors underlying the relationship between sleep and obesity risk.

METHODS: Football players (n=111, 23.6±5 years, range 17-35) from the Qatar Stars League who were attending pre-competition screening assessments during August 2011 were queried using a standardized sleep questionnaire. The Arabic version of the Pittsburgh Sleep Quality Index (PSQI) was used to determine the quantity and quality of sleep. The reported total sleep time was used to establish sleep phenotype: short 9h. Height and weight were assessed from chart review and used to calculate body mass index (BMI, kg/m2). The percent body fat (BF) was determined by DEXA scan. All athletes underwent hematological investigations for lipid profile (cholesterol - HDL, LDL - and triglyceride). Between-group comparisons were made